

## DESCRIPTION

**METHOD AND APPARATUS FOR DATA REPRODUCTION**

5           A range of architectures are disclosed for a practical multi-beam DVD system (or a CD system) recorded in a linear sequence on an optical disc. The data incorporates inner and outer error protection codes (PI, PO), the outer code being applied on the basis of a predetermined size of data block (ECC frame). Each block comprises a series of several sectors. Multi-channel read-  
10 out provides in parallel a set of N sub-sequences, starting without restriction to said block or sub-block boundaries. Sector ID codes are detected within each channel (a, b, c, d) to identify a series of sub-blocks forming a part of a data block and, even in the absence of data from the start of the block (blocks marked \*), outer error protection circuitry 216 processes the sub-blocks to  
15 accumulate a partial error protection syndrome relating to said block. Upon reaching the end of said block, a syndrome for a next block within the sub-sequence is accumulated. Subsequently sub-blocks forming a starting part of the same block whose end part has been processed are recognized in a different channel, and processed (216) to accumulate the remainder of said  
20 syndrome. The reading beams (a, b, c, d) jump to a new set of locations (a', b', etc) to cover a further portion of the disc.

[figure 6]